DEFENSE INFORMATION SYSTEMS AGENCY
P. O. BOX 4502
ARLINGTON, VIRGINIA 22204-4502

IN REPLY REFER TO: Joint Interoperability Test Command (JTE) **19 Jul 10**

MEMORANDUM FOR DISTRIBUTION

SUBJECT: Special Interoperability Test Certification of the XOP Networks Universal Service Node (USN) - 16 with Software Release 4.3.1

References: (a) DOD Directive 4630.05, "Interoperability and Supportability of Information Technology (IT) and National Security Systems (NSS)," 5 May 2004
(b) CJCSI 6212.01E, "Interoperability and Supportability of Information Technology and National Security Systems," 15 December 2008
(c) through (e), see Enclosure 1

1. References (a) and (b) establish the Defense Information Systems Agency (DISA), Joint Interoperability Test Command (JITC), as the responsible organization for interoperability test certification.

2. The XOP Networks USN – 16 with Software Release 4.3.1 is hereinafter referred to as the system under test (SUT). The SUT met all of the critical interface and functional interoperability requirements of the Unified Capabilities Requirements and is certified for use within the Defense Switched Network (DSN) as a Meet-Me Conference Bridge (CB). The SUT is certified for use with any Small End Office (SMEO) or Private Branch Exchange (PBX) that is listed on the Unified Capabilities (UC) Approved Products List (APL). There must be at least two SUTs when implemented with a SMEO or PBX because the implementation requirement is for two separate bridges, each of which has the capacity of at least ten conferees. The SUT is not certified with a Multifunction Switch (MFS), End Office (EO), or Tandem Switch (TS) because the SUT server is limited to 16 conferees and the requirement is for 20 conferees when implemented with a MFS, EO, or TS. The SUT meets the critical interoperability requirements set forth in Reference (c) using test procedures derived from Reference (d). No other configurations, features, or functions, except those cited within this report, are certified by the JITC. This certification expires upon changes that affect interoperability, but no later than three years from the date of Defense Information Assurance (IA)/Security Accreditation Working Group (DSAWG) accreditation.

3. This finding is based on interoperability testing, review of the vendor's Letters of Compliance (LoC), and DSAWG accreditation. Interoperability testing was conducted by the Telecommunication Systems Security Assessment Program (TSSAP), 346th Test Squadron, 318th Information Operations Group, San Antonio, Texas, from 22 through 25 June 2009. Regression testing was conducted from 2 through 6 November 2009. Review of the vendors LoC was

completed on 24 June 2009. The DSAWG granted accreditation on 14 June 2010 based on the security testing completed by Department of Defense Component lab IA test teams and published in a separate report, Reference (e). The Certification Testing Summary (Enclosure 2) documents the test results and describes the test configuration.

4. The Functional Requirements used to evaluate the interoperability of the SUT and the interoperability statuses are indicated in Table 1.

Table 1. SUT Functional Requirements and Interoperability Status

Interface	Critical	Certified	Functional Requirements	Status	UCR Reference
2-Wire Analog	No	Yes	All 2-wire analog devices shall conform to the requirements of TIA/EIA-470-B. (R)	Met	5.2.12.3.5.1
			All DSN CPE, as a minimum, must meet the requirements of Part 15 and Part 68 of the FCC Rules and Regulations, and the Administrative Council for Terminal Attachments (ACTA). (R)	Met	5.2.12.3.5
			Conference connect and disconnect tone (R)	Met	5.2.1.6.2
			MLPP access and control (R)	Met	5.2.1.6.2, 5.2.2.1.4
			If the Meet-Me CB is to be certified for use with a SMEO or PBX 1, it must support, at a minimum, two (2) separate bridges with each bridge having the capacity for ten (10) conferees. (C)	Met[1]	5.2.1.6.2
			If the Meet-Me CB is to be certified for use with a MFS or EO, it must support, at a minimum, two (2) separate bridges with each bridge having the capacity for twenty (20) conferees. (C).	Not Met[2]	5.2.1.6.2
Security	Yes	Certified	GR-815, STIGs and DoDI 8510.bb (DIACAP) (R)	Met[3]	3.2.3, 3.2.5, 5.4.6.1

NOTES:

1 The SUT supports a maximum of 16 analog ports per server and, therefore, meets the requirements for use with a SMEO and PBX. There must be at least two SUTs when implemented with a SMEO or PBX because the implementation requirement is for two separate bridges, each of which has the capacity of at least ten conferees. The SUT was tested on only one switch, an MFS, which is certified as a SMEO and PBX as well as an MFS. Based on certification of the MFS, JITC analysis determined there was no risk with certifying the SUT for use with SMEOs or PBXs in this manner.

2 The SUT does not meet minimum of 20 conferees per conference for an EO, MFS, or TS. There is no operational impact since there is no requirement for an external meet-me conference with an EO, MFS, or TS.

3 Security is tested by Department of Defense Component lab Information Assurance test teams and published in a separate report, Reference (e).

LEGEND:

C	Conditional	MFS	Multi Function Switch
CB	Conference Bridge	MLPP	Multi-Level Precedence and Preemption
CPE	Customer Premise Equipment	PBX	Private Branch Exchange
DoDI	Department of Defense Instruction	R	Required
DIACAP	Department of Defense Information Assurance Certification and Accreditation	SMEO	Small End Office
		STIGs	Security Technical Implementation Guides
DISA	Defense Information Systems Agency	SUT	System Under Test
DSN	Defense Switched Network	TIA	Telecommunications Industry Association
EIA	Electronic Industries Alliance	TIA/EIA-470-B	Performance and Compatibility Requirements for Telephone Sets with Loop Signaling
EO	End office Switch		
FCC	Federal Communications Commission	TS	Tandem Switch
GR	Generic Requirement	UCR	Unified Capabilities Requirements
GR 815	Generic Requirements for Network Element/System Security		

5. No detailed test report was developed in accordance with the Program Manger's request. JITC distributes interoperability information via the JITC Electronic Report Distribution (ERD) system, which uses Unclassified-But-Sensitive Internet Protocol Router Network (NIPRNet) e-

mail. More comprehensive interoperability status information is available via the JITC System Tracking Program (STP). The STP is accessible by .mil/.gov users on the NIPRNet at https://stp.fhu.disa.mil. Test reports, lessons learned, and related testing documents and references are on the JITC Joint Interoperability Tool (JIT) at http://jit.fhu.disa.mil (NIPRNet), or http://199.208.204.125 (SIPRNet). Information related to DSN testing is on the Telecom Switched Services Interoperability (TSSI) website at http://jitc.fhu.disa.mil/tssi. Due to the sensitivity of the information, the Information Assurance Accreditation Package (IAAP) that contains the approved configuration and deployment guide must be requested directly through government civilian or uniformed military personnel from the Unified Capabilities Certification Office (UCCO), e-mail: ucco@disa.mil.

6. The JITC point of contact is Mr. Khoa Hoang, DSN 879-4376, commercial (520) 538-4376, FAX DSN 879-4347, or e-mail to khoa.hoang@disa.mil. The JITC's mailing address is P.O. Box 12798, Fort Huachuca, AZ 85670-2798. The tracking number for the SUT is 0830801.

FOR THE COMMANDER:

2 Enclosures a/s

for RICHARD A. MEADOR
Chief
Battlespace Communications Portfolio

Distribution (electronic mail):
Joint Staff J-6
Joint Interoperability Test Command, Liaison, TE3/JT1
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Department of the Army, Office of the Secretary of the Army, DA-OSA CIO/G-6 ASA (ALT), SAIS-IOQ
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DOT&E, Net-Centric Systems and Naval Warfare
U.S. Coast Guard, CG-64
Defense Intelligence Agency
National Security Agency, DT
Defense Information Systems Agency, TEMC
Office of Assistant Secretary of Defense (NII)/DOD CIO
U.S. Joint Forces Command, Net-Centric Integration, Communication, and Capabilities Division, J68
Defense Information Systems Agency, GS23

ADDITIONAL REFERENCES

(c) Defense Information Systems Agency, "Department of Defense Networks Unified Capabilities Requirements 2008," 22 January 2009
(d) Joint Interoperability Test Command, "Defense Switched Network Generic Switch Test Plan (GSTP), Change 2," 2 October 2006
(e) Air Force Test Facility, "Information Assurance (IA) Assessment of XOP Universal Service Node, Release 4.3.1 (TN 0830801)," 14 June 2010

CERTIFICATION TESTING SUMMARY

1. SYSTEM TITLE. XOP Networks Universal Service Node (USN) – 16 with Software Release 4.3.1; hereinafter referred to as the System Under Test (SUT).

2. PROPONENT. Air Force Cryptological Systems Group (CPSG).

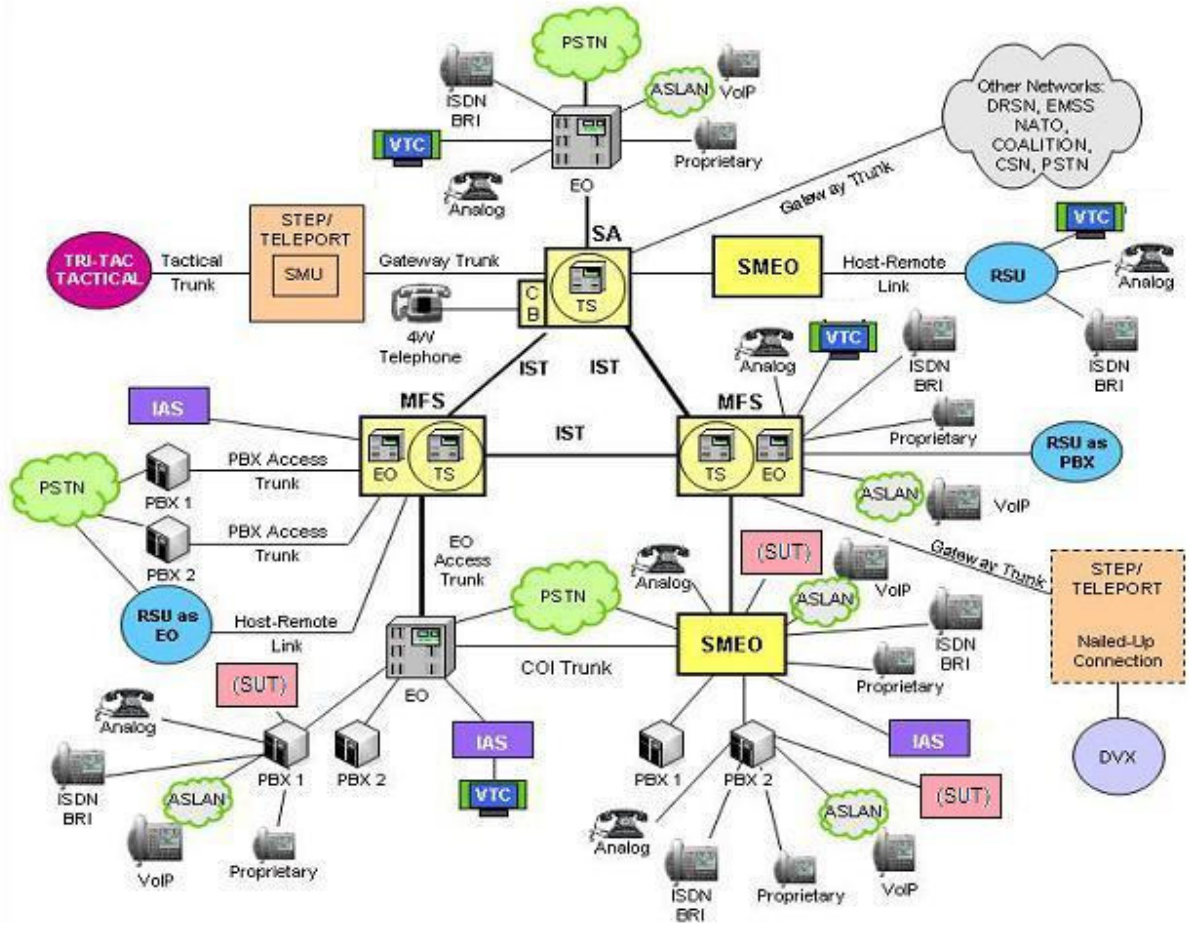
3. PROGRAM MANAGER. Mr. Daniel Holm, CPSG\ZCI, 240 Hall Blvd Building 2081, Lackland Air Force Base, Texas, 78236, e-mail: daniel.holm@lackland.af.mil.

4. TESTER. Telecommunication Systems Security Assessment Program (TSSAP), 346th Test Squadron, 318th Information Operations Group, United States Air Force, San Antonio, Texas.

5. SYSTEM UNDER TEST DESCRIPTION. The SUT is an Audio Conferencing bridge. The SUT supports 16 analog loop start conference ports per server. The SUT meets the minimum capacity for a Small End Office (SMEO) or Private Branch Exchange (PBX) 1 switch when a minimum of two SUTs are configured with these switch types. The SUT supports multiple audio conferencing types including reservation-less and reservation-based Meet-Me conference calls. The SUT includes flexibility and control to administer the conferences with a web based user interface. If e-mail access is enabled, moderators can use the iCalendar feature to schedule conferences.

Although the SUT can support other service applications, audio conferencing was the only application tested and covered under this certification. Other applications that were not tested and are not covered under this certification are: Audio Conferencing, Web Conferencing, Desktop Video Conferencing, Firebar Emergency Conferencing, Hoot-n-Holler Conferencing, Mass Notification, Voicemail, and PagerBlast.

6. OPERATIONAL ARCHITECTURE. The Unified Capabilities Requirements (UCR) Defense Switched Network (DSN) architecture in Figure 2-1 depicts the relationship of the SUT to the DSN switches.



LEGEND:

4W	4-Wire	NATO	North Atlantic Treaty Organization
ASLAN	Assured Services Local Area Network	PBX	Private Branch Exchange
BRI	Basic Rate Interface	PBX 1	Private Branch Exchange 1
CB	Channel Bank	PBX 2	Private Branch Exchange 2
COI	Community of Interest	PSTN	Public Switched Telephone Network
CSN	Canadian Switch Network	RSU	Remote Switching Unit
DRSN	Defense Red Switch Network	SA	Standalone
DSN	Defense Switched Network	SMEO	Small End Office
DVX	Deployable Voice Exchange	SMU	Switched Multiplex Unit
EMSS	Enhanced Mobile Satellite System	STEP	Standardized Tactical Entry Point
EO	End Office	SUT	System Under Test
IAS	Integrated Access Switch	Tri-Tac	Tri-Service Tactical Communications Program
ISDN	Integrated Services Digital Network	TS	Tandem Switch
IST	Interswitch Trunk	VoIP	Voice over Internet Protocol
MFS	Multifunction Switch	VTC	Video Teleconferencing

Figure 2-1. Relationship of the SUT to the DSN Architecture

7. REQUIRED SYSTEM INTERFACES. Requirements specific to the SUT and interoperability results are listed in Table 2-1. These requirements are derived from UCR Interface and Functional Requirements and are verified through TSSAP testing and review of the vendor's Letters of Compliance (LoC).

Table 2-1. SUT Functional Requirements and Interoperability Status

Interface	Critical	Certified	Functional Requirements	Status	UCR Reference
2-Wire Analog	No	Yes	All 2-wire analog devices shall conform to the requirements of TIA/EIA-470-B. (R)	Met	5.2.12.3.5.1
			All DSN CPE, as a minimum, must meet the requirements of Part 15 and Part 68 of the FCC Rules and Regulations, and the Administrative Council for Terminal Attachments (ACTA). (R)	Met	5.2.12.3.5
			Conference connect and disconnect tone (R)	Met	5.2.1.6.2
			MLPP access and control (R)	Met	5.2.1.6.2, 5.2.2.1.4
			If the Meet-Me CB is to be certified for use with a SMEO or PBX 1, it must support, at a minimum, two (2) separate bridges with each bridge having the capacity for ten (10) conferees. (C)	Met[1]	5.2.1.6.2
			If the Meet-Me CB is to be certified for use with a MFS or EO, it must support, at a minimum, two (2) separate bridges with each bridge having the capacity for twenty (20) conferees. (C).	Not Met[2]	5.2.1.6.2
Security	Yes	Certified	GR-815, STIGs and DoDI 8510.bb (DIACAP) (R)	Met[3]	3.2.3, 3.2.5, 5.4.6.1

NOTES:

1 The SUT supports a maximum of 16 analog ports per server and, therefore, meets the requirements for use with a SMEO and PBX. There must be at least two SUTs when implemented with a SMEO or PBX because the implementation requirement is for two separate bridges, each of which has the capacity of at least ten conferees. The SUT was tested on only one switch, an MFS, which is certified as a SMEO and PBX as well as an MFS. Based on certification of the MFS, JITC analysis determined there was no risk with certifying the SUT for use with SMEOs or PBXs in this manner.

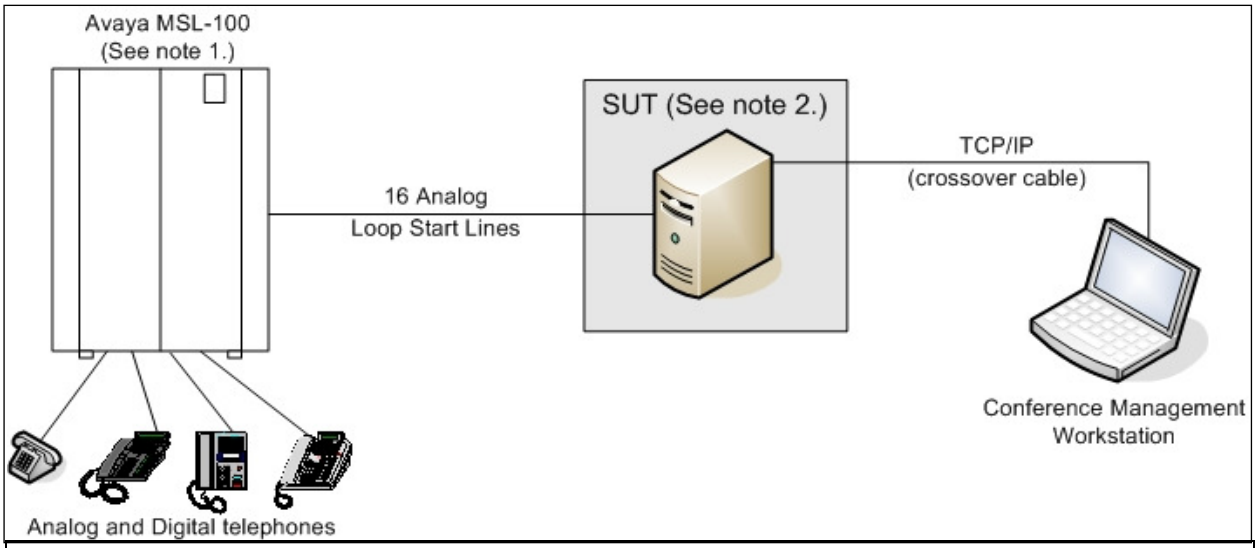
2 The SUT does not meet minimum of 20 conferees per conference for an EO, MFS, or TS. There is no operational impact since there is no requirement for an external meet-me conference with an EO, MFS, or TS.

3 Security is tested by Department of Defense Component lab Information Assurance test teams and published in a separate report, Reference (e).

LEGEND:

C	Conditional	MFS	Multi Function Switch
CB	Conference Bridge	MLPP	Multi-Level Precedence and Preemption
CPE	Customer Premise Equipment	PBX	Private Branch Exchange
DoDI	Department of Defense Instruction	R	Required
DIACAP	Department of Defense Information Assurance Certification and Accreditation	SMEO	Small End Office
		STIGs	Security Technical Implementation Guides
DISA	Defense Information Systems Agency	SUT	System Under Test
DSN	Defense Switched Network	TIA	Telecommunications Industry Association
EIA	Electronic Industries Alliance	TIA/EIA-470-B	Performance and Compatibility Requirements for Telephone Sets with Loop Signaling
EO	End office Switch		
FCC	Federal Communications Commission		
GR	Generic Requirement	TS	Tandem Switch
GR 815	Generic Requirements for Network Element/System Security	UCR	Unified Capabilities Requirements

8. TEST NETWORK DESCRIPTION. The SUT was tested at the TSSAP in a manner and configuration similar to that of the DSN operational environment. Testing the system's required functions and features was conducted using the test configurations depicted in Figure 2-2.



NOTES:
1 The SUT was tested on only one switch, an MFS, which is certified as a SMEO and PBX as well as an MFS. Based on certification of the MFS, JITC analysis determined there was no risk with certifying the SUT for use with SMEOs or PBXs in this manner.
2 The SUT supports a maximum of 16 analog ports per server and, therefore, meets the requirements for use with a SMEO and PBX. There must be at least two SUTs when implemented with a SMEO or PBX because the requirement is for two separate bridges with the capacity for ten conferees. The SUT does not meet minimum of 20 conferees per conference for an EO, MFS, or TS. There is no operational impact since there is no requirement for an external meet-me conference with an EO, MFS, or TS.

LEGEND:

EO	End Office	SUT	System Under Test
MFS	Multifunction Switch	TCP/IP	Transmission Control Protocol/Internet Protocol
MSL	Meridian Switch Logic	TS	Tandem Switch
PBX	Private Branch Exchange		
SMEO	Small End Office		

Figure 2-2. SUT Test Configuration

9. SYSTEMS CONFIGURATIONS. Table 2-2 provides the system configurations, hardware, and software components tested with the SUT. The SUT was tested in an operationally realistic environment to determine interoperability with a complement of DSN switches noted in Table 2-2. Table 2-2 lists the DSN switches which depict the tested configuration and is not intended to identify the only switches that are certified with the SUT. The SUT is certified with switching systems listed on the Unified Capabilities (UC) Approved Products List (APL) that offer the same certified interfaces.

Table 2-2. SUT Test Configuration

System Name	Software Release	
Avaya MSL-100	MSL-17	
System Under Test	**Hardware**	**Software**
XOP Networks USN - 16 Release 4.3	HP ProLiant DL380 G5	Windows 2003 Server SP2 Microsoft SQL 2005 SP3 XNXID Version 2.5.0.214 XNALIMST Version 3.0.0.5 XNGETTMS Version 2.1.0.4 XNUPDATE Version 5.1.0.104 Gencpi Release 4.2.0.0.1
	Keyboard, Video or Visual Display Unit, Mouse	N/A

LEGEND:

HP	Hewlett Packard	SQL	Structured Query Language
MSL	Meridian Switch Logic	SUT	System Under Test
N/A	Not Applicable	USN	Universal Service Node
SP	Service Pack		

10. TEST LIMITATIONS. None.

11. TEST RESULTS

a. Discussion. The SUT minimum critical interoperability interface and functional requirements were met through interoperability certification testing conducted at the TSSAP. The UCR requirement states that a switch shall meet the Meet-Me conference requirements with an internal or external conference bridge. The SUT was tested as an external bridge connected to the switch. The SUT was tested on only one switch, a Multifunction Switch (MFS), which is certified as a SMEO and PBX as well as an MFS. Based on certification of the MFS, JITC analysis determined there was no risk with certifying the SUT for use with SMEOs or PBXs in this manner.

b. Test Conduct. Multiple calls were placed over the test configuration using the 2-wire analog loop signaling lines as shown in Figure 2-2. Calls were placed towards the SUT to insure functionality and interoperability of the SUT. The 16 lines used by the SUT for conferees were configured in a multi-hunt group with a single pilot number. This is the most likely implementation for the conference bridge and the Multi-level Precedence and Preemption (MLPP) interaction, and is the only configuration certified.

(1) The UCR, Section 5.2.12.3.5, requirements state that all DSN Customer Premise Equipment, as a minimum, must meet the requirements of Part 15 and Part 68

of the Federal Communications Commission Rules and Regulations, and the Administrative Council for Terminal Attachments (ACTA). The SUT met this requirement with the vendor-provided LoC.

(2) The UCR, Section 5.2.12.3.5, requirements state all 2-wire analog devices shall conform to the requirements of Telecommunications Industry Association/Electronic Industries Alliance (TIA/EIA)-470-B. The SUT met this requirement with the vendor-provided LoC.

(3) The UCR, 5.2.1.6.2 requirements state:

(a) When a conferee is added an audio connect tone (ascending tones) will be sent to all remaining conferees. If a conferee hangs up or the conferee is preempted, an audio disconnect tone (alternating 852 Hertz and 1336 Hertz at 100 millisecond intervals) will be sent to all remaining conferees. This requirement was met through testing.

(b) Each Meet-Me conference bridge shall be fully capable of MLPP access and control, as described in the UCR, Section 5.2.2.1.4, Invocation and Operation. Multiple multi-level precedence calls were placed from the SUT and established within the DSN at the respective precedence level dialing the DSN World Wide Numbering and Dialing Plan access code (e.g. 93: Priority, 92: Immediate, 91: Flash, etc.). This requirement was met through testing.

(d) If the Meet-Me CB is to be certified for use with a Multi-Function Switch (MFS) or End Office (EO), it must support, at a minimum, two (2) separate bridges with each bridge having the capacity for twenty (20) conferees. Due to the limitation of the SUT to support a maximum of 16 conferees per server, this requirement was not met. The SUT is, therefore, not certified for use with an MFS or EO. This is a conditional requirement for a meet-me conference bridge.

(e) If the Meet-Me CB is to be certified for use with SMEO or PBX 1, it must support, at a minimum, two (2) separate bridges with each bridge having the capacity for ten (10) conferees. The SUT meets this requirement with a minimum of two servers with 16 conference ports per server. Although the SUT was tested with only one server, due to the fact that each server is an autonomous meet-me conference bridge with 16 ports per server, the SUT is certified with a multiple number of servers to meet the scalable requirements.

(4) The UCR, Sections 3.2.3, 3.2.5, and 5.4.6.1, state the Information Assurance requirements for the SUT. These requirements are tested by Department of Defense Component lab Information Assurance test teams and results are published under a separate report, Reference (e).

c. Test Summary. The SUT met the critical interface and functional requirements for a Meet-Me conference bridge system for the interfaces depicted in Table 2-1, as set

forth in Reference (c), and is certified for joint use within the DSN for use with a SMEO, PBX 1, or PBX 2 switch.

12. TEST AND ANALYSIS REPORT. No detailed test report was developed in accordance with the Program Manager's request. JITC distributes interoperability information via the JITC Electronic Report Distribution (ERD) system, which uses Unclassified-But-Sensitive Internet Protocol Router Network (NIPRNet) e-mail. More comprehensive interoperability status information is available via the JITC System Tracking Program (STP). The STP is accessible by .mil/gov users on the NIPRNet at https://stp.fhu.disa.mil. Test reports, lessons learned, and related testing documents and references are on the JITC Joint Interoperability Tool (JIT) at http://jit.fhu.disa.mil (NIPRNet), or http://199.208.204.125 (SIPRNet). Information related to DSN testing is on the Telecom Switched Services Interoperability (TSSI) website at http://jitc.fhu.disa.mil/tssi. Due to the sensitivity of the information, the Information Assurance Accreditation Package (IAAP) that contains the approved configuration and deployment guide must be requested directly through government civilian or uniformed military personnel from the Unified Capabilities Certification Office (UCCO), e-mail: ucco@disa.mil.